

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH (MDPH) – DIVISION OF STD PREVENTION (DSTDP)
2012 SEXUALLY TRANSMITTED DISEASES (STD) TREATMENT GUIDELINES

These guidelines for treatment of STDs reflect recommendations of the **MDPH DSTDP** and of the **CDC STD Treatment Guidelines**. These outlines focus on STDs encountered in outpatient settings and are not an exhaustive list of effective treatments. Please refer to the complete CDC document for more information or call the DSTDP. Clinical and epidemiological services are available through the DSTDP including staff to assist healthcare providers with confidential notification of sexual partners of patients infected with STDs and/or HIV. Please call the DSTDP for assistance at (617) 983-6940.

DISEASE	RECOMMENDED TREATMENT	ALTERNATIVES (use only if recommended regimens are contraindicated)
SYPHILIS		
ADULTS PRIMARY, SECONDARY OR EARLY LATENT (<1 YEAR)	• Benzathine penicillin G 2.4 million units IM once	(For penicillin-allergic non-pregnant patients only) • Doxycycline 100 mg orally 2 times a day for 14 days OR • Tetracycline 500 mg orally 4 times a day for 14 days
ADULTS LATE LATENT (>1 YEAR) OR LATENT OF UNKNOWN DURATION	• Benzathine penicillin G 2.4 million units IM for 3 doses at 1 week intervals (total 7.2 million units)	(For penicillin-allergic non-pregnant patients only) • Doxycycline 100 mg orally 2 times a day for 28 days OR • Tetracycline 500 mg orally 4 times a day for 28 days
NEUROSYPHILIS	• Aqueous crystalline penicillin G 18 - 24 million units per day, administered as 3-4 million units IV every 4 hours or continuous infusion, for 10-14 days	• Procaine penicillin 2.4 million units IM once daily PLUS probenecid 500 mg orally 4 times a day, both for 10-14 days
CHILDREN PRIMARY, SECONDARY OR EARLY LATENT (<1 YEAR)	• Benzathine penicillin G 50,000 units/kg IM once, up to adult dose of 2.4 million units	No specific alternative regimens exist.
CHILDREN LATE LATENT (>1 YEAR) OR LATENT OF UNKNOWN DURATION	• Benzathine penicillin G 50,000 units/kg IM (up to adult dose of 2.4 million units) for 3 doses at 1 week intervals (up to total adult dose of 7.2 million units)	
CONGENITAL SYPHILIS	See complete CDC guidelines.	
HIV INFECTION	Same stage-specific recommendations as for HIV-negative persons.	
PREGNANCY	Penicillin is the only recommended treatment for syphilis during pregnancy. Women who are allergic should be desensitized and treated with penicillin. Treatment is the same as in non-pregnant patients for each stage of syphilis. ¹	
GONOCOCCAL INFECTIONS		
ADULTS, ADOLESCENTS AND CHILDREN ≥45 KG UROGENITAL, PHARYNGEAL, RECTAL	♦ Ceftriaxone 250 mg IM once PLUS ² ♦ Azithromycin 1 g orally once (preferred) OR ♦ Doxycycline ³ 100 mg orally 2 times a day for 7 days	Note: Use of any alternative regimens for gonorrhea should be followed by a test-of-cure⁴ in one week. For urogenital or rectal infections ONLY, and ONLY if ceftriaxone is <i>not</i> available: ♦ Cefixime 400mg orally once PLUS ♦ Azithromycin 1 g orally once (preferred) OR ♦ Doxycycline ³ 100 mg orally 2 times a day for 7 days For severe cephalosporin allergy: ♦ Azithromycin 2 g orally in a single dose
ADULTS AND ADOLESCENTS CONJUNCTIVAL	• Ceftriaxone 1 g IM once plus lavage the infected eye with saline solution once	No specific alternative regimens exist.
CHILDREN <45 KG	• Ceftriaxone 125 mg IM once	
NEONATES OPHTHALMIA NEONATORUM INFANTS BORN TO INFECTED MOTHERS	• Ceftriaxone 25-50 mg/kg IV or IM once (maximum 125 mg)	
CHLAMYDIAL INFECTIONS		
ADULTS AND CHILDREN AGED ≥8 YEARS	• Azithromycin 1 g orally once OR • Doxycycline 100 mg orally 2 times a day for 7 days	• Erythromycin base 500 mg orally 4 times a day for 7 days ⁵ OR • Erythromycin ethylsuccinate 800 mg orally 4 times a day for 7 days OR • Levofloxacin ⁶ 500 mg orally once a day for 7 days OR • Ofloxacin 300 mg orally 2 times a day for 7 days
CHILDREN <45 KG AND NEONATES	• Erythromycin base or ethylsuccinate 50 mg/kg/day orally divided into four doses daily for 14 days ⁷	No specific alternative regimens exist.
PREGNANCY	• Azithromycin 1 g orally once OR • Amoxicillin 500 mg orally 3 times a day for 7 days	• Erythromycin base 500 mg orally 4 times a day for 7 days (or 250 mg orally 4 times a day for 14 days) OR • Erythromycin ethylsuccinate 800 mg orally 4 times a day for 7 days (or 400 mg orally 4 times a day for 14 days)
NONGONOCOCCAL URETHRITIS		
ADULT MALES	• Azithromycin 1 g orally once ⁸ OR • Doxycycline 100 mg orally 2 times a day for 7 days	• Erythromycin base 500 mg orally 4 times a day for 7 days OR • Erythromycin ethylsuccinate 800 mg orally 4 times a day for 7 days OR • Levofloxacin 500 mg orally once a day for 7 days OR • Ofloxacin 300 mg orally 2 times a day for 7 days
EPIDIDYMITIS ⁹		
ADULT MALES	• Ceftriaxone 250 mg IM once PLUS • Doxycycline 100 mg orally 2 times a day for 10 days	• Levofloxacin 500 mg orally once a day for 10 days OR • Ofloxacin 300 mg orally twice daily for 10 days
PELVIC INFLAMMATORY DISEASE (outpatient management)		
ADULT FEMALES	• Ceftriaxone 250 mg IM once OR • Cefoxitin 2 g IM once plus probenecid 1 g orally once OR • Other third generation cephalosporin PLUS • Doxycycline 100 mg orally 2 times a day for 14 days WITH OR WITHOUT • Metronidazole ¹⁰ 500 mg orally twice a day for 14 days	See complete CDC guidelines for alternatives.
PREGNANCY	Patients should be hospitalized and treated with the appropriate recommended parenteral IV therapy (see complete CDC guidelines).	

¹ Tetracycline/doxycycline contraindicated; erythromycin not recommended because it does not reliably cure an infected fetus; data insufficient to recommend azithromycin or ceftriaxone.
² Dual therapy for gonococcal infection now recommended for all patients with gonorrhea regardless of chlamydia test results.
³ Doxycycline not recommended during pregnancy, lactation, or for children <8 years of age.
⁴ Test-of-cure for gonorrhea should be performed with culture or with nucleic acid amplification (NAAT) if culture is not available. If NAAT positive, confirmatory culture recommended. If treatment failure suspected after *alternative* regimen use, treat using ceftriaxone 250 mg IM PLUS azithromycin 2 g orally once, and perform test-of-cure in one week. If treatment failure suspected after *recommended* regimen use, culture, perform antimicrobial susceptibility testing, notify and consult with the state health department, and/or consult with an infectious disease specialist, an STD/HIV Prevention Training Center (www.nnptc.org), or CDC.
⁵ If patient cannot tolerate high dose erythromycin schedules, change to lower dose for longer (see under pregnancy alternatives).
⁶ Quinolones not recommended for use in patients <18 years of age, and are contraindicated in pregnant women.
⁷ Efficacy of treating neonatal chlamydial conjunctivitis and pneumonia is about 80%. A second course of therapy may be required. An association between oral erythromycin and infantile hypertrophic pyloric stenosis (IHPS) has been reported in infants aged less than 6 weeks treated with this drug. See complete CDC guidelines for more information.
⁸ Infections with *M. genitalium* may respond better to azithromycin.
⁹ Recommended regimen of ceftriaxone and doxycycline is for epididymitis most likely caused by gonococcal and/or chlamydial infection. Given increase in quinolone resistant gonorrhea, alternative regimen of ofloxacin or levofloxacin is recommended only if epididymitis is not found to be caused by gonococci or if infection is more likely caused by enteric gram-negative organisms.
¹⁰ Consuming alcohol should be avoided during treatment and for 24 hours thereafter. Multiple studies and meta-analyses have *not* demonstrated an association between metronidazole use during pregnancy and teratogenic or mutagenic effects in newborns. In lactating women administered metronidazole, withholding breastfeeding during treatment and for 12–24 hours after last dose will reduce exposure of infant to metronidazole.

DISEASE	RECOMMENDED TREATMENT		ALTERNATIVES (use only if recommended regimens are contraindicated)	
CHANCROID				
ADULTS	<ul style="list-style-type: none">Azithromycin¹¹ 1 g orally once <u>OR</u>Ceftriaxone 250 mg IM once <u>OR</u>Ciprofloxacin 500 mg orally 2 times a day for 3 days <u>OR</u>Erythromycin base 500 mg orally 3 times a day for 7 days			
BACTERIAL VAGINOSIS (BV)				
ADULT FEMALES	<ul style="list-style-type: none">Metronidazole 500 mg orally 2 times a day for 7 days <u>OR</u>Metronidazole gel 0.75%, 5 g intravag. once a day for 5 days <u>OR</u>Clindamycin cream 2%, 5 g intravag. at bedtime for 7 days	<ul style="list-style-type: none">♦ Tinidazole¹² 2 g orally once daily for 3 days <u>OR</u>♦ Tinidazole 1 g orally once daily for 5 days <u>OR</u>Clindamycin 300 mg orally 2 times a day for 7 days <u>OR</u>Clindamycin ovules 100 mg intravag. at bedtime for 3 days		
PREGNANCY ¹³	<ul style="list-style-type: none">Metronidazole 500 mg orally 2 times a day for 7 days <u>OR</u>Metronidazole 250 mg orally 3 times a day for 7 days <u>OR</u>Clindamycin 300 mg orally 2 times a day for 7 days			
TRICHOMONIASIS				
ADULTS	<ul style="list-style-type: none">Metronidazole 2 g orally once <u>OR</u>Tinidazole 2 g orally once	<ul style="list-style-type: none">Metronidazole¹⁴ 500 mg orally 2 times a day for 7 days		
PEDICULOSIS PUBIS ¹⁵				
	<ul style="list-style-type: none">Permethrin 1% cream rinse applied to affected area and washed off after 10 minutes <u>OR</u>Pyrethrins with piperonyl butoxide applied to affected area and washed off after 10 minutes	<ul style="list-style-type: none">Malathion 0.5% lotion applied for 8-12 hours and washed off <u>OR</u>Ivermectin¹⁶ 250 mcg/kg orally once, repeated in 2 weeks		
SCABIES				
	<ul style="list-style-type: none">Permethrin 5% cream applied to all areas of the body from the neck down and washed off after 8-14 hours <u>OR</u>Ivermectin 200 mcg/kg orally, repeated in 2 weeks	<ul style="list-style-type: none">Lindane¹⁷ 1% 1 oz of lotion or 30 g of cream applied thinly to all areas of the body from neck down and washed off after 8 hours		
GENITAL HERPES SIMPLEX: See complete CDC guidelines for the management of herpes in pregnancy and in the neonate.				
ADULTS FIRST CLINICAL EPISODE	<ul style="list-style-type: none">Acyclovir 400 mg orally 3 times a day for 7-10 days <u>OR</u>Acyclovir 200 mg orally 5 times a day for 7-10 days <u>OR</u>Famciclovir¹⁸ 250 mg orally 3 times a day for 7-10 days <u>OR</u>Valacyclovir 1 g orally 2 times a day for 7-10 days			
ADULTS EPISODIC THERAPY FOR RECURRENCE	<ul style="list-style-type: none">Acyclovir 800 mg orally 2 times a day for 5 days <u>OR</u>Acyclovir 400 mg orally 3 times a day for 5 days <u>OR</u>Acyclovir 800 mg orally 3 times a day for 2 days <u>OR</u>Famciclovir 125 mg orally 2 times a day for 5 days <u>OR</u>Famciclovir 1000 mg orally 2 times a day for 1 day <u>OR</u>♦ Famciclovir 500 mg orally once, followed by 250 mg orally 2 times a day for 2 days <u>OR</u>Valacyclovir 500 mg orally 2 times a day for 3 days <u>OR</u>Valacyclovir 1 g orally once a day for 5 days			
ADULTS SUPPRESSIVE THERAPY FOR RECURRENCE	<ul style="list-style-type: none">Acyclovir 400 mg orally 2 times a day <u>OR</u>Famciclovir 250 mg orally 2 times a day <u>OR</u>Valacyclovir 500 mg orally once a day <u>OR</u>Valacyclovir 1 g orally once a day			
HIV INFECTION	Higher doses and/or longer therapy recommended. See complete CDC guidelines.			
GENITAL WARTS				
External or Perianal		Urethral Meatus	Vaginal	Anal
<ul style="list-style-type: none">PROVIDER-ADMINISTERED Cryotherapy with liquid nitrogen or cryoprobe. Repeat applications every 1-2 weeks if necessary <u>OR</u> Podophyllin resin 10%-25%¹⁹ in a compound tincture of benzoin. Limit application to < 10 cm² and to < 0.5 ml. No open wounds or lesions should exist in the area of application. Allow to air dry. Wash off 1-4 hours after application. Repeat weekly if necessary <u>OR</u> Trichloroacetic acid (TCA) or bichloroacetic acid (BCA) 80% -90%. Apply small amount only to warts. Allow to dry. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary <u>OR</u> Surgical removalPATIENT-APPLIED Podofilox 0.5% solution or gel. Apply 2 times a day for 3 days, followed by 4 days of no therapy, 4 cycles max. Total wart area should not exceed 10 cm² and total volume applied daily not to exceed 0.5 ml. <u>OR</u> Imiquimod 5% cream. Apply once daily at bedtime 3 times a week for up to 16 weeks. Wash treatment area with soap and water 6-10 hours after application. <u>OR</u> ♦ Sinecatechins 15% ointment.²⁰ Applied 3 times a day for up to 16 weeks. Do not wash off.		Cryotherapy with liquid nitrogen <u>OR</u> Podophyllin 10%-25% in a compound tincture of benzoin. Treatment area must be dry before contact with normal mucosa. Repeat weekly if necessary.	Cryotherapy with liquid nitrogen. Cryoprobe not recommended (risk of perforation and fistula formation) <u>OR</u> TCA or BCA 80%-90%. Apply small amount only to warts. Allow to dry. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary.	Cryotherapy with liquid nitrogen <u>OR</u> TCA or BCA 80%-90%. Apply small amount only to warts. Allow to dry. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary <u>OR</u> Surgical removal Many persons with anal warts may also have them in the rectal mucosa. Inspect rectal mucosa by digital examination or anoscopy. Warts on the rectal mucosa should be managed in consultation with a specialist.

¹¹ Because data are limited concerning efficacy of ceftriaxone and azithromycin regimens in HIV-infected persons, these regimens should be used for such patients only if follow-up can be ensured.

¹² Consuming alcohol should be avoided during treatment and for 72 hours thereafter. Tinidazole safety during pregnancy not established. Interruption of breastfeeding is recommended during treatment and for 3 days after last dose.

¹³ Oral therapy preferred for treatment of pregnant women with BV because of possibility of subclinical upper genital tract infection.

¹⁴ Regimen of 7 days of metronidazole may be more effective than single dose metronidazole in women coinfectd with trichomoniasis and HIV.

¹⁵ Lindane no longer recommended because of toxicity. Pregnant or lactating women should be treated either with permethrin or pyrethrins with piperonyl butoxide.

¹⁶ Ivermectin not recommended for pregnant or lactating women, or children who weigh <15 kg.

¹⁷ Lindane no longer recommended as first line therapy because of toxicity. Lindane not to be used immediately after a bath, in persons with extensive dermatitis and women who are pregnant or lactating, or children aged < 2 years.

¹⁸ Famciclovir efficacy and safety not established in patients <18 years of age.

¹⁹ Imiquimod, sinecatechins, podophyllin, and podofilox should not be used during pregnancy.

²⁰ Sinecatechins not recommended for HIV-infected persons, immunocompromised persons, or persons with clinical genital herpes.